



US009410493B2

(12) **United States Patent**  
**Nishijima et al.**

(10) **Patent No.:** **US 9,410,493 B2**  
(45) **Date of Patent:** **Aug. 9, 2016**

(54) **CONTROL UNIT FOR  
INTERNAL-COMBUSTION ENGINE**

USPC ..... 123/478, 479; 60/274, 285  
See application file for complete search history.

(75) Inventors: **Hiroki Nishijima**, Suntou-gun (JP);  
**Tatsuhiko Hashida**, Susono (JP)

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(73) Assignee: **TOYOTA JIDOSHA KABUSHIKI  
KAISHA**, Toyota-shi (JP)

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(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 403 days.

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(21) Appl. No.: **14/236,549**

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(22) PCT Filed: **Aug. 4, 2011**

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(86) PCT No.: **PCT/JP2011/067858**

(Continued)

§ 371 (c)(1),  
(2), (4) Date: **Jan. 31, 2014**

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(87) PCT Pub. No.: **WO2013/018224**

International Search Report Issued Nov. 15, 2011 in PCT/JP11/  
067858 Filed Aug. 4, 2011.

PCT Pub. Date: **Feb. 7, 2013**

*Primary Examiner* — John Kwon

(65) **Prior Publication Data**

(74) *Attorney, Agent, or Firm* — Oblon, McClelland, Maier  
& Neustadt, L.L.P.

US 2014/0165979 A1 Jun. 19, 2014

(51) **Int. Cl.**

**F02M 51/00** (2006.01)  
**F02D 41/00** (2006.01)  
**F01N 9/00** (2006.01)  
**F01N 11/00** (2006.01)

(Continued)

(52) **U.S. Cl.**

CPC ..... **F02D 41/0047** (2013.01); **F01N 9/002**  
(2013.01); **F01N 11/00** (2013.01); **F02D**  
**41/1466** (2013.01); **F02D 41/1467** (2013.01);  
**F02D 41/22** (2013.01); **G01N 15/0606**  
(2013.01); **G01N 15/0656** (2013.01);  
(Continued)

(58) **Field of Classification Search**

CPC .... F01N 11/00; F02N 41/1466; F02N 41/222

(57) **ABSTRACT**

According to the invention, a particulate matter sensor is installed in an exhaust passage of an internal-combustion engine. A control unit for this internal-combustion engine detects a particulate amount in an exhaust gas through the exhaust passage in response to an output from the particulate matter sensor. Further, the control unit for the internal-combustion engine forms a particulate layer on electrode surfaces of the particulate matter sensor by applying a particulate capturing voltage between the electrodes during a first period. Further, the control unit maintains the formed particulate layer during a second period. It is noted here that the phrase “maintain the formed particulate layer” includes the meanings “maintaining the formed particulate layer as it is” and “inhibiting control to remove the particulate layer”.

**9 Claims, 5 Drawing Sheets**

